

Claims

What is claimed is:

1. A micromachined apparatus comprising:
a substrate; and
a released microstructure disposed on the substrate, comprising:
a dielectric layer, and
a conductive polysilicon layer attached to the dielectric layer, wherein the polysilicon layer has a thickness less than $1/5$ the dielectric layer thickness.
2. The apparatus of claim 1 wherein the polysilicon layer contacts and covers the dielectric layer.
3. The apparatus of claim 1 wherein the polysilicon layer is enclosed within the dielectric layer.
4. The apparatus of claim 1 comprising an additional polysilicon layer attached to the dielectric layer, and wherein the dielectric layer is sandwiched between the polysilicon layers.
5. The apparatus of claim 4 wherein the polysilicon layers have equal thickness.
6. The apparatus of claim 1 wherein the dielectric layer comprises a via hole.
7. The apparatus of claim 1 wherein the microstructure comprises a cantilever that is attached to the substrate.
8. The apparatus of claim 1 wherein the microstructure comprises a switch.
9. The apparatus of claim 1 comprising a conductive pad disposed on the substrate and electrostatically coupled to the polysilicon layer, and wherein the microstructure is capable of being deflected by an electrostatic force applied to the polysilicon layer.

10. The apparatus of claim 1 wherein the dielectric layer comprises silicon carbide.
11. A micromachined apparatus comprising:
 - a substrate; and
 - a released microstructure disposed on the substrate, comprising:
 - a dielectric layer, and
 - a conductive layer attached to the dielectric layer, wherein the conductive layer has a thickness less than $1/5$ the dielectric layer thickness.
12. The apparatus of claim 11 wherein the conductive layer contacts and covers the dielectric layer.
13. The apparatus of claim 11 wherein the conductive layer is enclosed within the dielectric layer.
14. The apparatus of claim 11 comprising an additional conductive layer attached to the dielectric layer, and wherein the dielectric layer is sandwiched between the conductive layers.
15. The apparatus of claim 14 wherein the conductive layers have equal thickness.
16. The apparatus of claim 11 wherein the dielectric layer comprises a via hole.
17. The apparatus of claim 11 wherein the microstructure comprises a cantilever that is attached to the substrate.
18. The apparatus of claim 11 wherein the microstructure comprises a switch.
19. The apparatus of claim 11 wherein the dielectric layer comprises silicon carbide.
20. A micromachined apparatus comprising:

a substrate; and

a released cantilever disposed on the substrate, comprising:

a silicon carbide dielectric layer, and

a conductive layer attached to the dielectric layer, wherein the conductive layer has a thickness less than $1/5$ the dielectric layer thickness.